

REMARKS

Claim 11 has been amended to incorporate the Examiner's helpful suggestion to overcome the rejection under 35 U.S.C. 112, second paragraph.

Claim 20 has been amended to incorporate the subject matter of claim 21, and claim 21 has been cancelled.

Claim 22 has been amended to recite that the plurality of lugs are "arranged in", rather than "attached to" the tubes, to be consistent with the other independent claims (e.g., see claim 1 and claim 21, as twice amended).

Entry of this Amendment is proper because it: (a) places the application in condition for allowance (for the reasons described herein); (b) does not raise any new issues requiring further search and/or consideration; (c) does not present any additional claims without canceling a corresponding number of finally rejected claims; and (d) places the application in better form for appeal, should an appeal be necessary.

The Examiner of this application, Mr. Leonard Leo, is thanked for the courtesies extended to the undersigned during the personal interview conducted February 17, 1999. During the interview, the claimed invention was discussed in view of the prior art applied in the rejections. The following reflects and expands upon the interview discussions.

Reconsideration of the new grounds of rejection of claims 1-8, 10-15 and 17-22 under 35 U.S.C. 103(a) as being unpatentable

over Karbach et al. in view of Melnyk et al., and the new grounds of rejection of claim 9 under 35 U.S.C. 103(a) as being unpatentable further in view of Kun et al., is respectfully requested, in view of the following remarks.

The rejection asserted that Karbach et al. discloses all the claimed limitations excepted latticed tube bottoms, and asserted that it would have been obvious to modify Karbach et al. to employ the latticed tube bottoms 24 of Melnyk et al. With all due respect, Applicants disagree with the Examiner's position for the following reasons.

Melnyk et al. relates to a heat exchanger of the shell and tube type, and a method for assembly thereof. A tube bundle 22 consists of two tube sheets or headers 24, a plurality of equally spaced, alternately positioned baffles 26, and a plurality of tubes 28 mounted through aligned openings 30 formed in the headers and baffles. The tubes 28, which extend just behind the respective headers 24, are brazed to the headers, and the headers are brazed to the full round shell 12. Melnyk et al.'s heat exchanger may be used as an oil cooler, wherein oil or other fluid flows through the full round shell 12 intermediate the headers 24 around the tubes 28 and baffles 26, and a suitable coolant such as water flows through the tubes 28.

The rejection asserted, "Since Karbach et al and Melnyk et al are both from the same field of endeavor, the purpose disclosed by Melnyk et al would have been recognized in the

pertinent art of Karbach et al." With all due respect, applicants disagree with this assertion. Rather, one of ordinary skill in the art would have recognized that the oil cooler of Melnyk et al. is markedly different from the exhaust cooler of Karbach et al., since those two different heat exchangers are subjected to different operating conditions and especially to very different temperatures. Furthermore, one of ordinary skill in the art would have recognized that in Karbach et al. the cooling medium flows around the tube bundle (i.e., on the outside of the tubes), whereas in Melnyk et al. the cooling medium flows through the tubes. It is respectfully submitted that one of ordinary skill in the art would have recognized these differences, and would not have found any suggestion or motivation to attempt to combine these references as hypothetically suggested in the rejection.

The only suggestion for making the hypothetical combination of Karbach et al. and Melnyk et al. asserted in the final rejection comes from the disclosure of the instant application. Of course, such hindsight is impermissible. As the court stated in W. L. Gore & Associates, Inc. v. Garlock, Inc., 220 USPQ 303 (Fed. Cir. 1983),

[t]o imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.

As pointed out by the U.S.P.T.O. Board of Patent Appeals and Interferences in *Ex parte Clapp*, 227 USPQ 972, 973 (BPAI 1985),

To support the conclusion that the claimed combination is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed combination or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. It is to be noted that simplicity and hindsight are not proper criteria for resolving the issue of obviousness [citing *In re Horn*, 203 USPQ 969, 971 (CCPA 1979)].

These and a multitude of other decisions make it clear that obviousness cannot be judged in hindsight, i.e., in view of the disclosure of the applicant. The final rejection alleged that "the purpose of providing a fluid tight manifold as recognized by Melnyk et al." would motivate one of ordinary skill in the art to make the hypothetical combination. With all due respect, Applicants submit that one of ordinary skill in the art simply would not have recognized the Examiner's alleged motivation, since there is no lack of a fluid tight manifold in Karbach et al. In fact, the stacked disk elements of Karbach et al. have such a different structure from the tubes and headers of Melnyk et al. that the combination asserted in the final rejection would have required substantial structural modification, thereby leading one of ordinary skill in the art away from such a modification. Therefore, applicants respectfully contend that the Examiner has failed to present a convincing line of reasoning as to why the claimed invention would have been obvious.


Summarizing, it is respectfully submitted that the final rejections under 35 U.S.C. 103(a) are erroneous since they require hindsight drawn from applicants' disclosure to be motivated in the direction of the claimed combination of features set forth in each of instant claims 1, 20 and 22, including: (a) a plurality of tubes/rectangular tubes for guiding exhaust gas; (b) a plurality of lugs arranged in pairs in said tubes/rectangular tubes diagonally to a flow direction of the exhaust gas; and (c) preformed latticed tube bottoms in which ends of said tubes/rectangular tubes are arranged such that said tubes/rectangular tubes form a bundle, said ends of the tubes/rectangular tubes and said tube bottoms forming a weld joint therebetween. In view of the above, it is submitted that the rejections under 35 U.S.C. 103(a) fail to present a *prima facie* case of obviousness and should be reconsidered and withdrawn.

In light of the foregoing amendments and remarks, it is respectfully submitted that this application is in condition for allowance, and prompt passage of this case to issue is respectfully requested. However, if there are any questions regarding this amendment or any outstanding issues which could be resolved by telephone, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #027/43042).

Respectfully submitted,

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